

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): A process for preparing a micro-array for analysis of DNA which comprises the steps of:

spotting onto a solid carrier in a predetermined area thereof in which a number of ~~reactive groups~~ vinylsulfonyl groups are fixed an aqueous solution which contains a thickening agent comprising a water-soluble polymer carboxymethylcellulose and polyacrylamide selected from the group consisting of carboxymethylcellulose and polyacrylamide and which has a viscosity of 2 to 50 mPa · s and probe molecules having a ~~group reactive with the reactive groups of the carrier to produce covalent bonding, the thickening agent being incorporated in an amount to increase viscosity of the solution to a predetermined value~~ an amino group and the probe molecules being selected from the group consisting of nucleic acid fragments, oligonucleotides and peptide nucleic acids;

spotting onto the solid carrier in an area other than the area in which the aqueous solution was spotted and in which ~~the same reactive groups~~ vinylsulfonyl groups are ~~present~~ fixed an aqueous solution which contains a thickening agent comprising a water-soluble polymer and which has a viscosity of 2 to 50 mPa · s and probe molecules having a ~~group reactive with the reactive groups of the carrier to produce covalent bonding, the thickening agent being incorporated in an amount to increase viscosity of the solution to a predetermined value~~ an

amino group and the probe molecules being selected from the group consisting of nucleic acid fragments, oligonucleotides and peptide nucleic acids;

incubating the solid carrier having the spotted aqueous solutions on the surface to ~~cause~~ thereby causing reaction for producing the covalent bondings between the vinylsulfonyl groups and the amino groups; and

washing the surface of the solid carrier with an aqueous medium to remove all of the thickening agent from the surface of the solid carrier, thereby preparing the micro-array.

Claims 2-4 (Canceled).

Claim 5 (Currently Amended): The process of claim [4] 1, wherein the vinylsulfonyl group is provided to the solid carrier by reacting a divinylsulfone compound with a amino group which has been previously placed on the solid carrier.

Claims 6 (Original): The process of claim 1, wherein the aqueous medium for washing the solid carrier contains a surface active agent.

Claim 7 (Currently Amended): The process of claim 1, wherein each of the aqueous solutions has a viscosity ~~essentially~~ identical to each other.

Claim 8 (Original): A micro array for analysis of DNA which is prepared by claim 1.

Claim 9 (Currently amended): A process for preparing a micro-array for analysis of DNA which comprises the steps of:

spotting onto a solid carrier in a predetermined area thereof in which a number of amino groups electrically chargeable in an aqueous medium are fixed an aqueous solution which contains a thickening agent comprising a water-soluble polymer selected from the group consisting of carboxymethylcellulose and polyacrylamide and which has a viscosity of 2 to 50 mPa · s and probe molecules having a phosphoric acid group electrically chargeable in an aqueous medium to produce electrostatic bonding with the electrically chargeable groups of the carrier, the thickening agent being incorporated in an amount to increase viscosity of the solution to a predetermined value and the probe molecules being selected from the group consisting of nucleic acid fragments, oligonucleotides and peptide nucleic acids;

spotting onto the solid carrier in an area other than the area in which the aqueous solution was spotted and in which ~~the same electrically chargeable groups~~ amino groups are present fixed an aqueous solution which contains a thickening agent comprising a water-soluble polymer and which has a viscosity of 2 to 50 mPa · s and probe molecules having a group electrically chargeable in an aqueous medium to produce electrostatic bonding with the electrically chargeable groups of the carrier, the thickening agent being incorporated in an amount to increase viscosity of the solution to a predetermined value phosphoric acid group and the probe molecules being selected from the group consisting of nucleic acid fragments, oligonucleotides and peptide nucleic acids;

incubating the solid carrier having the spotted aqueous solutions on the surface to ~~cause thereby causing~~ reaction for producing ~~the covalent~~ electrostatic bondings between the amino groups and the phosphoric acid groups; and

washing the surface of the solid carrier with an aqueous medium to remove all of
the thickening agent from the surface of the solid carrier, thereby preparing the micro-array.

Claims 10-12 (Canceled).

Claim 13 (Currently Amended): The process of claim ~~12~~ 9, wherein the amino group is provided to the solid carrier by treating the solid carrier with an aminosilane coupling agent or a polycation compound.

Claim 14 (Original): The process of claim 9, wherein the aqueous medium for washing the solid carrier contains a surface active agent.

Claim 15 (Currently Amended): The process of claim 9, wherein each of the aqueous solutions has a viscosity ~~essentially~~ identical to each other.

Claim 16 (Currently Amended): A micro-array for analysis of DNA which is prepared by claim [4] 9.